repeatedly shown some beneficial response. But using fetal tissue is of course highly controversial, and (in the necessary quantity and quality) is difficult to obtain. So researchers have been exploring the possibilities of transplanting cells from other species — so-called xenotransplants.

A few animal species can manifest characteristics very similar to our own Parkinson's disease; these rats, mice, and monkeys are of course used for the primary research. We'll pick rats.

The brain is a tricky place to do tissue transplants; its highly developed immune system kills off the transplanted cells. But testicular cells are far less finicky — because cells in the testes coat themselves with a protein which tricks immune-system cells into killing themselves, thus sparing the transplant. So how would testes cells fare if put in the brain, and — wild speculations here — could they be used to protect transplants of dopamine-producing cells somehow? Some Florida researchers decided to find out.

Taking normal rats, they implanted into one side of the brain some rat testes cells mixed with some dopamine-producing cells from cows. Into the other side of the brain they implanted the cow cells only. This latter transplant provides a "control" on the action of the testes cells. Result?

The cow-only transplants were quickly destroyed by the rat brain's immune system. But on the other side of the brain, both the rat testes cells and the cow cells remained healthy. That half of the brain showed more than a seven-fold reduction in the number of the immune cells about, and the dopamine-making cells kept happily making their dopamine. One assumes that, had the host rats had Parkinson's, their condition would have improved.

A bundle of obvious research presents itself here. Will the treatment really cure or help a "Parkinson's" rat? Since human cells do not make the protective protein, can we use rat testes cells in humans? Or will we be able to use testes cells from such things as pigs, which supply so many other things for human transplants? What will be the ultimate best mix of testes cells to dopamine producers? Can we genetically engineer dopamine-producing cells to produce the protective protein on their own? This one pioneering experiment clearly will generate huge amounts of future research and, one hopes, a cure for a very frustrating disease.

Duane Jeffery is a professor of zoology at Brigham Young University.

Daily Herald Photo/Pat Christian

Chris Miller, right, KSL's outdoor specialist, and another climber stop to rest during a more modern climb of Timpanogos from the same west ridge that Dean Brimhall and Karl Hardy climbed in 1916.

It still amazes me how story ideas often come wrapped up in tiny surprise packages, as this account of a brave winter mountain climb of Mt. Timpanogos did.

What an adventure Dean Brimhall and Karl Hardy must have had using snowshoes and pointed bamboo poles hiking up a canyon east of Lindon past a grand-daddy avalanche.

Their winter mountaineering achievement took them up the west side of Timpanogos to the summit, then down the west side to complete a loop, and they did it without modern Goretex fabric or down insulation.

Photo courtesy of Special Collections, U. of U. Library

Brimhall stands near the top of Mt. Timpanogos in this photo taken by Hardy, who had climbed into a crevasse to explore.

I was on the computer researching for Martha Hughes Cannon series *(Daily Herald Dec. 7-10).* She was the first female state senator in the nation, elected to the Utah Senate in 1849.

It wasn't much, just a notation I found in a particular computer file. It had nothing to do with Cannon and everything to do with one of my hobbies. The two-line reference was about "A Winter Acquaintance With Timpanogos," and a reference to the Utah State Historical Society.

I wasn't sure what it was about, and if I had not climbed Timpanogos three times myself in the winter, I might not have been interested enough to drive to Salt Lake City and dig through records at the Historical Society. But Timpanogos climbs in winter always have piqued my interest.

Those young climbers may think mountaineering craziness is a relative modern phenomenon. I know I was surprised by the earliness of Brimhall and Hardy's winter ascent, and don't even know if it is a first ascent or not.

I've always wondered how many feet above sea level Indians ever reached on Timpanogos in winter. Certainly they had the stamina; I can only guess of the inclination of more adventurous, earlier inhabitants of Utah Valley.

At 11,750 feet above sea level, Timpanogos is beautiful. It's impressive enough to have lured a number of climbers to her wintry slopes, and it's formidable enough to have killed a number of mountaineers who have tried to climb it.

At an old wooden table at the Historical Society, I had a virtual adventure, reading through a letter Brimhall had written to a relative in 1923 about a winter ascent on February 19, 1916, a Saturday.

Brimhall said the winter of 1915-1916 was particularly severe. "Snow was knee deep for weeks in the valleys, and the mountains were hardly ever free from storm clouds," Brimhall wrote.

"Every time the sky cleared, the great king of the Wasatch Range stood out in marvelously white majesty. He seemed to say, "Come up and conquer me if you dare."

Brimhall said so far as they knew, their climb was the first time anyone had ever climbed Timpanogos in winter months.

"A short spinning of wheels, a biting of chains and we were off," he wrote of the motor car drive that seemed in itself an adventure. The old car had chains on its back wheels, but still seemed to barely stay on the road.

"The ten-mile ride to Jex ranch at the mouth of Dry Canyon was not without its thrills," Brimhall said. "Two feet of snow with only wagon tracks for a broken trail is not conductive to fast driving, but it does not lack in fantastic skidding and unexpected plowing into the unbroken banks at the side of the road."

Eventually reaching the mouth of Dry Canyon east of Lindon, they put their snow shoes on. Their lunches were tied to their belts, and each carried a box Kodak camera. In each hand they carried a bamboo spike to help balance themselves and they also carried rope that they would use for parts of the climb.

(See TIMP, Page C2)

Photo courtesy of Special Collections, University of Utah Library

Hardy stands near the Timpanogos summit, which is marked by a flag pole complete with a metal flag with the words "Pleasant Grove" printed on it.

the brains of aborted fetuses into the brains of Parkinson's patients has repeatedly shown some beneficial response. But using fetal tissue is of course highly controversial, and (in the necessary quantity and quality) is difficult to obtain. So researchers have been exploring the possibilities of transplanting cells from other species — so-called xenotransplants.

A few animal species can manifest characteristics very similar to our own Parkinson's disease; these rats, mice, and monkeys are of course used for the primary research. We'll pick rats.

The brain is a tricky place to do tissue transplants; its highly developed immune system kills off the transplanted cells. But testicular cells are far less finicky — because cells in the testes coat themselves with a protein which tricks immune-system cells into killing themselves, thus sparing the transplant. So how would testes cells fare if put in the brain, and — wild speculations here — could they be used to protect transplants of dopamine-producing cells somehow? Some Florida researchers decided to find out.

Taking normal rats, they implanted into one side of the brain some rat testes cells mixed with some dopamine-producing cells from cows. Into the other side of the brain they implanted the cow cells only. This latter transplant provides a "control" on the action of the testes cells. Result?

The cow-only transplants were quickly destroyed by the rat brain's immune system. But on the other side of the brain, both the rat testes cells and the cow cells remained healthy. That half of the brain showed more than a seven-fold reduction in the number of the immune cells about, and the dopamine-making cells kept happily making their dopamine. One assumes that, had the host rats had Parkinson's, their condition would have improved.

A bundle of obvious research presents itself here. Will the treatment really cure or help a "Parkinson's" rat? Since human cells do not make the protective protein, can we use rat testes cells in humans? Or will we be able to use testes cells from such things as pigs, which supply so many other things for human transplants? What will be the ultimate best mix of testes cells to dopamine producers? Can we genetically engineer dopamine-producing cells to produce the protective protein on their own? This one pioneering experiment clearly will generate huge amounts of future research and, one hopes, a cure for a very frustrating disease.

Duane Jeffery is a professor of zoology at Brigham Young Uni-

By PAT CHRISTIAN
The Daily Herald

It still amazes me how story ideas often come wrapped up in tiny surprise packages, as this account of a brave winter mountain climb of Mt. Timpanogos did.

What an adventure Dean Brimhall and Karl Hardy must have had using snowshoes and pointed bamboo poles hiking up a canyon east of Lindon past a grand-daddy avalanche.

Their winter mountaineering achievement took them up the west side of Timpanogos to the summit, then down the west side to complete a loop, and they did it without modern Goretex fabric or down insulation.

I was on the computer researching for Martha Hughes Cannon series *(Daily Herald Dec. 7-10)*. She was the first female state senator in the nation, elected to the Utah Senate in 1849.

It wasn't much, just a notation I found in a particular computer file. It had nothing to do with Cannon and everything to do with one of my hobbies. The two-line reference was about "A Winter Acquaintance With Timpanogos," and a reference to the Utah State Historical Society.

I wasn't sure what it was about, and if I had not climbed Timpanogos three times myself in the winter, I might not have been interested enough to drive to Salt Lake City and dig through records at the Historical Society. But Timpanogos climbs in winter always have piqued my interest.

I had just finished the story about three young men who had summited a south peak on Timpanogos this December *(Daily Herald Dec. 27)*.

Those young climbers may think mountaineering craziness is a relative modern phenomenon. I know I was surprised by the earliness of Brimhall and Hardy's winter ascent, and don't even know if it is a first ascent or not.

I've always wondered how many feet above sea level Indians ever reached on Timpanogos in winter. Certainly they had the stamina; I can only guess of the inclination of more adventurous, earlier inhabitants of Utah Valley.

At 11,750 feet above sea level, Timpanogos is beautiful. It's impressive enough to have lured a number of climbers to her wintry slopes, and it's formidable enough to have killed a number of mountaineers who have tried to climb it.

At an old wooden table at the Historical Society, I had a virtual adventure, reading through a letter Brimhall had written to a relative in 1923 about a winter ascent on February 19, 1916, a Saturday.

Brimhall said the winter of 1915-1916 was particularly severe. "Snow was knee deep for weeks in the valleys, and the mountains were hardly ever free from storm clouds," Brimhall wrote.

"Every time the sky cleared, the great king of the Wasatch Range stood out in marvelously white majesty. He seemed to say, "Come up and conquer me if you dare."

Brimhall said so far as they knew, their climb was the first time anyone had ever climbed Timpanogos in winter months.

"A short spinning of wheels, a biting of chains and we were off," he wrote of the motor car drive that seemed in itself an adventure. The old car had chains on its back wheels, but still seemed to barely stay on the road.

"The ten-mile ride to Jex ranch at the mouth of Dry Canyon was not without its thrills," Brimhall said. "Two feet of snow with only wagon tracks for a broken trail is not conductive to fast driving, but it does not lack in fantastic skidding and unexpected plowing into the unbroken banks at the side of the road."

Eventually reaching the mouth of Dry Canyon east of Lindon, they put their snow shoes on. Their lunches were tied to their belts, and each carried a box Kodak camera. In each hand they carried a bamboo spike to help balance themselves and they also carried rope that they would use for parts of the climb.

(See TIMP, Page C2)

Photo courtesy of Special Collections, U. of U. Library

Brimhall stands near the top of Mt. Timpanogos in this photo taken by Hardy, who had climbed into a crevasse to explore.

Daily Herald Photo/Pat Christian

Chris Miller, right, KSL's outdoor specialist, and another climber stop to rest during a more modern climb of Timpanogos from the same west ridge that Dean Brimhall and Karl Hardy climbed in 1916.

Photo courtesy of Special Collections, University of Utah Library

Hardy stands near the Timpanogos summit, which is marked by a flag pole complete with a metal flag with the words "Pleasant Grove" printed on it.

tissue transplants; its highly developed immune system kills off the transplanted cells. But testicular cells are far less finicky — because cells in the testes coat themselves with a protein which tricks immune-system cells into killing themselves, thus sparing the transplant. So how would testes cells fare if put in the brain, and — wild speculations here — could they be used to protect transplants of dopamine-producing cells somehow? Some Florida researchers decided to find out.

Taking normal rats, they implanted into one side of the brain some rat testes cells mixed with some dopamine-producing cells from cows. Into the other side of the brain they implanted the cow cells only. This latter transplant provides a "control" on the action of the testes cells. Result?

The cow-only transplants were quickly destroyed by the rat brain's immune system. But on the other side of the brain, both the rat testes cells and the cow cells remained healthy. That half of the brain showed more than a seven-fold reduction in the number of the immune cells about, and the dopamine-making cells kept happily making their dopamine. One assumes that, had the host rats had Parkinson's, their condition would have improved.

A bundle of obvious research presents itself here. Will the treatment really cure or help a "Parkinson's" rat? Since human cells do not make the protective protein, can we use rat testes cells in humans? Or will we be able to use testes cells from such things as pigs, which supply so many other things for human transplants? What will be the ultimate best mix of testes cells to dopamine producers? Can we genetically engineer dopamine-producing cells to produce the protective protein on their own? This one pioneering experiment clearly will generate huge amounts of future research and, one hopes, a cure for a very frustrating disease.

Duane Jeffery is a professor of zoology at Brigham Young Uni-

Photo courtesy of Special Collections, U. of U. Library

Brimhall stands near the top of Mt. Timpanogos in this photo taken by Hardy, who had climbed into a crevasse to explore.

summit, then down the west side to complete a loop, and they did it without modern Goretex fabric or down insulation.

I was on the computer researching for Martha Hughes Cannon series *(Daily Herald Dec. 7-10)*. She was the first female state senator in the nation, elected to the Utah Senate in 1849.

It wasn't much, just a notation I found in a particular computer file. It had nothing to do with Cannon and everything to do with one of my hobbies. The two-line reference was about "A Winter Acquaintance With Timpanogos," and a reference to the Utah State Historical Society.

I wasn't sure what it was about, and if I had not climbed Timpanogos three times myself in the winter, I might not have been interested enough to drive to Salt Lake City and dig through records at the Historical Society. But Timpanogos climbs in winter always have piqued my interest.

turous, earlier inhabitants of Utah Valley.

At 11,750 feet above sea level, Timpanogos is beautiful. It's impressive enough to have lured a number of climbers to her wintry slopes, and it's formidable enough to have killed a number of mountaineers who have tried to climb it.

At an old wooden table at the Historical Society, I had a virtual adventure, reading through a letter Brimhall had written to a relative in 1923 about a winter ascent on February 19, 1916, a Saturday.

Brimhall said the winter of 1915-1916 was particularly severe. "Snow was knee deep for weeks in the valleys, and the mountains were hardly ever free from storm clouds," Brimhall wrote.

"Every time the sky cleared, the great king of the Wasatch Range stood out in marvelously white majesty. He seemed to say, "Come up and conquer me if you dare."

Brimhall said so far as they knew, their climb was the first time anyone had ever climbed Timpanogos in winter months.

"A short spinning of wheels, a biting of chains and we were off," he wrote of the motor car drive that seemed in itself an adventure. The old car had chains on its back wheels, but still seemed to barely stay on the road.

"The ten-mile ride to Jex ranch at the mouth of Dry Canyon was not without its thrills," Brimhall said. "Two feet of snow with only wagon tracks for a broken trail is not conductive to fast driving, but it does not lack in fantastic skidding and unexpected plowing into the unbroken banks at the side of

Daily Herald Photo/Pat

Photo courtesy of Special Collections, University of Utah Library

Hardy stands near the Timpanogos summit, which is marked by a flag pole complete with a metal flag with the words "Pleasant Grove" printed on it.

Chris Miller, right outdoor speciali another climber rest during a mor ern climb of Timpa from the same wes that Dean Brimh Karl Hardy clim

the road."

Eventually reaching the mouth of Dry Canyon east of Lindon, they put their snow shoes on. Their lunches were tied to their belts, and each carried a box Kodak camera. In each hand they carried a bamboo spike to help balance themselves and they also rope that they would use fo of the climb.

(See TIMP, Page C2

CLIMBING MOUNT TIMPANOGOS

Men who love the hills have been climbing Mount Timpanogos for many years, but it remained for E. L. ("Timpanogos") Roberts, head of the physical educational department of the Brigham Young University, to bring to the attention of the public generally the wonders of the hoary old mountain. In the summer of 1912 he conceived the idea of taking the university summer school students on a hike to the summit of Timpanogos. A score of students responded. Next year the number was larger, and it has continued to increase from year to year until

358

it has reached more than a thousand. The interest in the mountain thus engendered has led to the building of trails and roadways in various directions to facilitate the ascent of the mountain. This work has been done in the main by the federal government, but assistance has been rendered by Utah County, the Provo Kiwanis Club, and the faculty and student body of the Brigham Young University.

The climb to the summit reveals waterfalls, mountain lakes, stretches of wild flowers, cirques, a glacier, and other mountain scenes of entrancing interest. On the American Fork side of the mountain has been discovered a cave containing such visions of delight as to attract thousands of special climbers.

The most thrilling feature of the hike is a slide down the glacier. The swiftness of the slide and the stinging of the face with sprays of snow gives a sensation long to be remembered.

But the mountain scenes and thrills are not the sole source of interest in the hike. It has a social phase that is most attractive, and is enjoyed by many who do not make the climb. At Aspen Grove, a beautiful spot at the foot of the mountain, reached through the north fork of Provo Canyon, the hikers camp at the evening of the first day. A big campfire and a program of music, readings, sentiments, and "stunts" make the evening a thoroughly enjoyable one.

The climb begins early the next morning and the descent is not completed until evening.

Boy scouts and others from Troop #1 Lindon on top of Mount Timpanogas. My father, A. L. Cullimore, is on front row far right. He was about 50 years old at this time.

A troop of scouts from Lindon going to camp up North Fork in American Fork Canyon.